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knowledge for our students, and their part to trust our judgment. They will do so when we show ourselves capable of that act of selection and criticism which underlies all education. They will welcome required courses which are complete and informing in themselves, and not merely prerequisite to special study. They will respond to instruction, which, whether on the literary or scientific side, is humanistic and exemplary of great historic and personal endeavors.

What a fine thing for education it would be, if the men who are controlling, or at least seem to control, the destinies of education in our great country, would take to heart, as their guiding principles, not only for collegiate education, but for education in the High Schools as well, the ideas set forth by Professor Mather in this most interesting and suggestive paper.

C. K.

THE FOLK CALENDAR OF TIMES AND SEASONS¹

In THE CLASSICAL WEEKLY 14. 89-93, 97-100, I collected instances of weather prognostics derived from the actions of birds, beasts, fish, and insects². The present paper aims to complete a study of the weather lore of animals³ by noting their associations with times and seasons.

Aristophanes, Aves 709, makes the birds say: 'We first show the signs of the season, spring, winter, and autumn'. Of similar purport is Jeremiah 8.7: 'Yea, the stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming'. "Part, more wise, . . . wedge their way intelligent of seasons", sings Milton of the birds, in Paradise Lost 7. 425-427. A well-known American ornithologist writes that "to the lover of Nature, birds are a living calendar"⁴.

Doubtless the arrival and the departure of birds were far more dependable indications of the season than was the calendar so long as entire months had to be intercalated. The peasantry would naturally continue the use of the ornithological calendar even after the new-fangled human device had been improved⁵.

SPRING

No bird is more closely associated with the advent of a new season than is the swallow, the *avant-coureur* of spring. In Rhodes every year the arrival of this bird was celebrated by children who went the rounds of the houses singing the song which begins, 'The swallow, the swallow is come, bringing good seasons and a joyful time'⁶.

¹The following abbreviations are used in this paper: Abbott = G. F. Abbott, Macedonian Folklore; Ael. = Aelianus, De Natura Animalium; Ar. = Aratus, Prognostica, as appended to the Phaenomena and numbered consecutively with it; Ar. Aves = Aristophanes, Aves; Geopon. = Geoponica; Hesiod = Hesiod, Works and Days; Pl. = Plinius, Naturalis Historia; Th. = Theophrastus, De Signis; Bergk = Bergk, Poetae Lyrici Graeci. ²See also Professor A. S. Pease's annotations on Cicero, De Divinatione, Liber Primus, University of Illinois Studies in Language and Literature, 6. 79-80, *passim*.

³The word *animals* is used in the Latin sense.

⁴Chapman, Birds of Eastern North America, 5.

⁵"Time among the Macedonian peasantry is measured not so much by the conventional calendar as by the labours and festivals which are proper to the various seasons of the year" Abbott, 11.

In this connection readers will recall a vase-painting which is reproduced in Schreiber, Atlas of Classical Antiquities, Plate LXIV⁷. On it is depicted a young man who, as he catches sight of a swallow, exclaims, 'Look, a swallow!'. An older man turns and answers, 'Yes, by Heracles!'. On the right a boy glances upward and says, 'Spring's already here'. The animation and excitement of the group show that it is no small event in their lives. Such scenes must have been common in Greece, as we can readily infer from Aristophanes, Equites 419, 'Look, lads, don't you see? The new season, a swallow!'⁸.

The swallow tells when it is time to sell heavy winter robes and to acquire lighter dress (Ar. Aves 714-715). Pliny says (18.237) that the first appearance of the swallow is eight days before the Kalends of March. We may infer from a Greek proverb that an occasional swallow missed its cue and came upon the scene too soon: 'One swallow does not make a spring'⁹. Babrius (131) does in fact tell us of a swallow which appeared out of season. The Greek proverb has a numerous progeny: e. g. in French, Une hirondelle ne fait pas le printemps; in Italian, Una rondine non fa l'estate; in Spanish (Don Quixote), Una golondrina sola no hace verano; 'One swallow doesn't make a summer'¹⁰.

In our own country the robin seems to have the place of the swallow in Greece: compare Lowell, My Study Windows, "The return of the robin is commonly announced by the newspapers, like that of eminent or notorious people to a watering-place, as the first authentic notification of spring".

Professor E. W. Martin, The Birds of the Latin Poets, 223, has collected some poetic references to the robin as a bird of spring: "The robin the forerunner of spring" (Longfellow); "I hear the whispering voice of Spring, The thrush's trill, the robin's cry" (Holmes); "The robins are come again with tender melodious note" (Mace)¹¹.

Sooner than other birds came the cuckoo proclaiming spring (Dionysius, De Avibus 1.13)¹². From the

⁷Athenaeus 8.360 C. For references to modern swallow-songs, see Thompson, A Glossary of Greek Birds, 189; Hastings, Encyclopaedia of Religion and Ethics, 1.528; Abbott, 18-19.

⁸A picture is to be found also in Baumeister, Denkmäler des Klassischen Altertums, 3.1985, and in Jane Harrison, Themis, 98.

⁹Compare Christina G. Rossetti, A Bird Song, 812: "It's surely summer, for there's a swallow: Come one swallow, his mate will follow. The bird race quicken and wheel and thicken".

¹⁰Aristotle, Nicomachean Ethics 1.7.16: "There seem to be lacking not a few swallows". Ar. Aves 1417. For other references to the swallow and spring, see Hesiod 568; Simonides 74 (Bergk); Aristophanes, Pax 800, Aves 714, Thesmophoriazusae 1; Ael. 1.52; Anthologia Palatina 10.14.5; Varro apud Augustinum, De Musica 4.15; Cicero, Ad Atticum 9.18.3, 10.2.1; Horace, Epist. 1.7.13, Carm. 4.12.1; Calpurnius, Ecl. 5.16-17; Ovid, Fasti 1.157-158, 2. 853; Pl. 2.122; Columella 10.80; Pervigilium Veneris, ad finem.

¹¹Compare the current Macedonian saying, 'One cuckoo does not make a spring': Abbott, 10.

¹²In America the bluebird shares with the robin the honor of announcing spring. Professor Martin also cites the following passages, the first from Longfellow, the next two from Bryant, the fourth from Emerson: "And from the stately elms I hear The bluebird prophesying Spring"; "And bluebirds in the misty spring Of cloudless skies and summer sing"; "The bluebird chants, from the elm's long branches, A hymn to welcome the budding year"; "Sparrows far off, and nearer April's bird Blue-coated flying before from tree to tree". In The Biglow Papers Lowell calls the bobolink "June's bridesman, poet of the year". <For a review of Professor Martin's book, by Professor W. B. McDaniel, see THE CLASSICAL WEEKLY 10.143-144. C. K.>

¹³Compare Aristotle, Historia Animalium 9.49 B; Ael. 3.30, ad finem.

fact that the cuckoo was a harbinger of spring arose a humorous custom among the peasantry. At those who had not finished their vine-dressing before its arrival was hurled the taunting cry, 'Cuckoo! Cuckoo!' (Pl. 18.249). Allusion is made to this custom in Horace, *Serm.* 1.7.28-31¹³. To-day in Macedonia the charcoal-burner who is plying his calling rather late in spring is greeted by boys with the same cry, 'Cuckoo! Cuckoo!' (Abbott, 17).

How eagerly the coming of the cuckoo was looked for is shown by the following lines¹⁴:

Opto meus veniat cuculus, carissimus ales.
Omnibus ille solet fieri gratissimus hospes
in tectis, modulans rutilo bona carmina rostro. . . .
Opto meus veniat cuculus cum germine laeto,
frigora depellat, Phoebos comes almus in aevum.
Phoebus amat cuculum crescentem luce serena¹⁵.

Another harbinger of spring is the stork: *avis exul hiemis, titulus tepidi temporis* (Petronius 55). In Isidorus, too (Origines 12.7.16), storks are *veris nuntiae*¹⁶. Sappho chooses another bird¹⁷, 'The angel of spring, the mellow-throated nightingale'¹⁸. The arrival of the kite, too, ushers in the spring (Ar. Aves 713)¹⁹. The halcyon is probably designated by 'the sea-purple bird of spring' (Alcman, *Frag.* 26). The finch, starling, and sparrow are likewise harbingers of spring (Martial 9.54.7-8). Pliny tells us (18.209) that because of the extreme delicacy of butterflies some people looked upon their arrival as the surest sign of spring²⁰. The cicada is held in honor as the pleasing prophet of summer²¹. Wild-pigeons were the surest harbingers of summer²².

The weather instinct of the lower orders was not always infallible. Pliny makes note (18.209) of one year in which the foreign birds brought on the sixth day before the Kalends of February every indication of an early spring, yet had to struggle after that with a winter of the utmost severity. In the same year three separate flights of butterflies, the most dependable prophets, were killed. Summer birds were sometimes killed when the cold lingered rather late or came too early; winter birds met the same fate from unexpected hot spells (Pl. 18.208). These pas-

sages remind one of a comment in Lowell, *My Study Windows*:

Birds frequently perish from sudden changes in our whimsical spring weather of which they had no foreboding. More than thirty years ago, a cherry-tree, then in full bloom, near my window, was covered with humming-birds benumbed by a fall of mingled rain and snow, which probably killed many of them.

WINTER

Even in Homeric days the fall migration of cranes was a reminder that winter was approaching (*Iliad* 3.3-4)²³. Their cries as they departed suggested that it was time to weave a cloak (Ar. Aves 710-712). The chaffinch knows the future better than man does and foresees the coming of winter (Ael. 4.60). Wild-pigeons announce the approach of winter as well as of summer²⁴ (Athenaus 491 B). When bees huddle together in late autumn before the rising of the Pleiades, expect a hard winter (Ar. 1064-1067, 1071). If in late autumn sheep or cattle tear up the ground and lie down in groups with their heads close together, or if they face the north, their actions indicate a stormy winter (Th. 41)²⁵, but if they continue tearing up the ground, then expect a severer winter, hard upon plants and crops and fields, but bringing snow that will aid the large fields of grain not too far advanced (Ar. 1082-1090).

It is an indication of a severe winter when sheep, pigs, and goats have a second breeding-season (Ar. 1068-1071)²⁶. If sheep begin to breed early, winter will come early (Th. 40; Ael. 7.8), but when they breed late the winter will be moderate (Ar. 1072-1074).

All fish are able to presage a vigorous winter, especially those which are supposed to have a stone in the head, as the *lupus*, *chromis*, *sciaena*, and *phagrus* (Ael. 9.7; Pl. 9.57).

Predictions about the character of the coming winter are common in popular lore. Among the Pennsylvania Dutch, for instance, it is believed that "If the lower legs of chickens are well covered with feathers, the winter will be severe"; "If chickens moult first on the fore part of the body, the early part of the winter will be severe; if on the rear, the end of winter"; "When earthworms lie near the surface late in fall, the winter will be mild"; "Hairy down on geese foretells a hard winter"; "Very heavy fleece on sheep indicates a hard winter"²⁷.

An aunt gives me some elaborate lore about 'the large brown caterpillar' seen in the fall:

If it is all light in color, it denotes a mild winter; if it is dark at the head and the rest of the body is light, the coldest weather will be at the beginning of the winter, and the rest of the winter season mild; if all the body is light except the tail and it is dark, the first part of the winter will be mild, and the latter

¹³In Italian *cuculiare*, 'to cuckoo', means 'to ridicule'. The peasants of Piedmont still have a motto and a gesture harking back to this old custom. See Gubernatis, *Zoological Mythology*, 2.233.

¹⁴*Anthologia Latina* (Reise), Volume 1, No. 687.
¹⁵Compare "The merry cuckoo, messenger of spring, His trumpet shrill hath thrice already sounded" (Spenser, *Sonnet* 19); "While I deduce From the first note the hollow cuckoo sings The symphony of springs" (Thomson, *The Seasons*, Spring 576-578); "Thrice welcome, darling of the spring" (Wordsworth, *To the Cuckoo*); "Hail, beauteous stranger of the grove! Thou messenger of spring! Now heaven repairs thy rural seat, And words thy welcome sing" (John Logan, *To the Cuckoo*).—For spring lore of the cuckoo in old English poetry see the initial pages of J. Hardy, *Popular History of the Cuckoo*, *Folk-Lore Record* 2.47-91.

¹⁶Compare Sidonius, *Epist.* 2.14.2.
¹⁷*Frag.* 39 (Bergk); *Odyssey* 19.518-519; Simonides, *Frag.* 73; Ar. Aves 683; Sophocles, *Electra* 149.

¹⁸Compare "The dear good angel of the spring, The Nightingale"; Ben Jonson, *The Sad Shepherd*.

¹⁹See also the scholiast on the passage.

²⁰A white butterfly means rainy weather, a dark one thunderstorm and a yellow one sunshine": Hastings, *Encyclopaedia of Religion and Ethics*, 1.506.—"When the butterfly comes, comes also the summer": Dunwoody, *Weather Proverbs*, Signal Service Notes, No. IX, 127.

²¹Bergk 3. 316. See also Ovid, *Ars Amatoria* 1.271; *Anthologia Palatina* 9.122.

²²Moire apud Athenaeum 491 B.

²³Compare Hesiod 448; Euripides, *Helena* 1478; Vergil, *Aen.* 6.310-312.

²⁴The Pleiades (compare *peleiades*, 'wild pigeons') announce the same seasons (Ar. 266-267).

²⁵See also Ar. 1082-1085; Geopon. 1.4.3.

²⁶See also Aristotle, *Historia Animalium* 575 B. 17; Th. 25; Geopon. 1.4.2.

²⁷E. M. Fogel, *Beliefs and Superstitions of the Pennsylvania Germans*, *Americana Germanica* 18. 221-232, *passim*.

part severe; if both ends are dark and the middle light, the beginning and end of the winter will be severe, with a mild spell in between; if it is all dark, the entire winter will be severe²⁸.

SOLSTICES

Animals are well aware of the advent and the departure of the solstices. The tunny is so sensitive to the time of the equinoxes and the solstices that he teaches even man himself without the help of any astrological table; for where the winter overtakes him, there he remains till the vernal equinox (Plutarch, *Moralia* 979 C-D; *Ael.* 9.42). The ram, too, has accurate knowledge of the coming of the summer solstice, for on that date he begins to rest on his right side after reclining on his left for six months (*Ael.* 10.18). The cooing of the ring-dove is another indication of the summer solstice, but, until the wood-pigeon is sitting on her eggs, one is to beware of supposing that this period is past (*Pl.* 18.267). The golden oriole comes about the time of the summer solstice and departs with the rising of Arcturus (Aristotle, *Historia Animalium* 9.22.1)²⁹. The greenfinch observes the same dates (*Ael.* 4.47). The bee is thought to announce the solstices by going to its labors³⁰. It appears that cicadas sing only after the (spring) solstice³¹.

COCK CROWING

Considerable lore has clustered about the crowing of the cock. It is called 'hour-seer'³², 'day-announcer'³³, 'dawn-crower'³⁴, and, like Rostand's chanticler, is said to bring the dawn³⁵. The crowing of the cock was the sign for rising³⁶; it was really a sort of alarm clock, for the Greek name, *alektryon*, was popularly said to be due to the cock's rousing people from bed (*lektron*)³⁷. According to one story, the cock was once a youth named Alektryon. The crowing at dawn is an everlasting memento of the disgraceful failure of the human original to keep awake and to announce to amorous Ares and Aphrodite the coming of dawn³⁸.

In popular belief the cock marked the periods of the day every three hours by his crowing (*Pl.* 10.46). The last watch of the night, called by the Greeks

*alektorophonia*³⁹, was divided into three parts. The first cock-crow is referred to by Theocritus (18.56), the second by Juvenal (9.107)⁴⁰, the third, indicating the end of twilight, by Theocritus (24.63)⁴¹. In Attica the song of the nightingale, too, marked the beginning of the day⁴².

In our own weather-lore the cock indicates a change of weather by crowing at nine o'clock. Among the Pennsylvania Dutch the crowing of the cock before nine at night portends rain⁴³.

NAVIGATION

'A bird will always say to one
Divining whether he should sail,
"Do not sail now: a storm will come",
"Sail now: your venture will not fail".'

Thus upon the sea, too, do birds prove useful (*Ar. Aves* 596-597). When the swallow comes, boats may prepare to put to sea (*Anthologia Palatina* 10.1, 10.14.7). Plutarch (*Moralia* 983 A) tells us that, when the halcyon brings forth her young about the time of the winter solstice, the whole ocean for seven days and seven nights remains calm and undisturbed without the wrinkle of a wave. During this period men voyage upon the sea with greater safety than they travel upon the land⁴⁴. The departure of the crane warns the ship-master to hang up his rudder, and sleep (*Ar. Aves* 710-711). In the previous paper⁴⁵ we saw how birds and even fish proved useful to the mariner by forewarning him of an approaching storm and indicating even the direction of the coming wind.

FARMING OCCUPATIONS

'We regulate the acts of man,
Whatever great things mortals plan'.

So speak the birds in Aristophanes, *Aves* 708. Certainly the seasons for many farming operations are indicated by them. The best time for planting vineyards is when the stork makes its appearance in the spring (Vergil, *Georg.* 2.319-320). Pruning should be done before the swallow comes (*Hesiod* 569). There will be a good vintage if the hoopoe cries before the vines sprout (*Horapollo* 2.92). When the returning swallow bedaubes her nest with mud, release the flocks from their winter-quarters (Calpurnius, *Ecl.* 5.17-18). The arrival of the kite is the time for spring shearing (*Ar. Aves* 713-714). If, when the cuckoo 'cuckoos' for the first time in the leaves of the oak, Zeus sends rains on the third day, and if the water neither rises above the ox's hoof nor falls below it, then the late plowman will vie with the early one in prosperity (*Hesiod* 486-490). In Egypt the cuckoo was autocratic, according to Aristophanes, *Aves* 504-506:

²⁸Compare Mark 13.35: 'Watch ye therefore: for ye know not when the master of the house cometh, at even, or at midnight or at the cockcrowing, or in the morning'.

³⁹Compare Mark 14.72: 'And the second time the cock crew. And Peter called to mind the word that Jesus said unto him, "Before the cock crow twice, thou shalt deny me thrice".'

⁴⁰For other references to the crowing of the cock, see Thompson, *A Glossary of Greek Birds*, 21-22.

⁴¹Philostratus, *Heroica* 665.

⁴²Fogel, *Beliefs and Superstitions of the Pennsylvania Germans*, Americana Germanica 18.224.

⁴³For an extensive list of references to halcyon days see Thompson, *A Glossary of Greek Birds*, 30, and O. Gruppe, *Griechische Mythologie und Religionsgeschichte*, 2 (1896), 842, N. 7.

⁴⁴THE CLASSICAL WEEKLY 14.97-98.

²⁸A few other methods of predicting the character of the winter may be noted. 'The trappers say that they can tell whether the winter will be hard or open by the amount of food stored up in the coneybarns': E. T. Seton, *Wild Animals at Home*, 168.—'When he <the farmer> kills his hogs in the fall, if the pork be very hard and solid, he predicts a severe winter; if soft and loose, the opposite': Burroughs, *Signs and Seasons*, 14.—'In early and long winters the beaver cuts his winter supply of wood and prepares his house one month earlier than in late mild winters': Inwards, *Weather Lore*, 130.—'When birds and badgers are fat in October, expect a cold winter': Inwards, 36.—'An early appearance of the woodcock indicates the approach of a severe winter': Inwards, 135.—'Tortoises creep deep into the ground so as to completely conceal themselves from view when a severe winter is to follow. When a mild winter is to follow, they go down just far enough to protect the opening of their shells': Dunwoody, *Weather Proverbs*, Signal Service Notes, No. IX, 118.—'If the mole dig his hole two feet and a half deep, expect a very severe winter; if two feet deep, not so severe; if one foot deep, a mild winter': Dunwoody, 32.—'If the forward part of a pig's melt is thicker than the other end, the first part of the winter will be the colder. If the latter end is thicker, the last part of winter will be the colder': Dunwoody, 32.

²⁹See also *Pl.* 10.87, 18.292.

³⁰Aristotle, *De Mirabilibus Auscultationibus* 64.

³¹*Ibidem*. The Oxford translation of Aristotle renders the passage as follows: "The grasshoppers appear to chirp only after the solstices". See also *Pl.* 11.107.

³²Babrius 124.15. ³³Simonides apud Athenaeum 374 D.

³⁴Eustathius in *Odysseam* 4.10. ³⁵*Anthologia Graeca* 5.2.

³⁶Aesop 441; Cicero, *De Murena* 22; Horace, *Serm.* 1.1.10.

³⁷Eustathius, as cited in Note 34; compare Athenaeus 374 D.

³⁸Lucian, *Gallus* 3; Scholium on *Ar. Aves* 835.

And the whole of Phoenice and Egypt was erst by a masterful cuckoo commanded.

When his loud cuckoo-cry was resounding on high, at once the Phoenicians would leap
All hands to the plain, rich-waving with grain, their wheat and their barley to reap⁴⁶

Yorkshire farmers take a practical hint from the early or the late arrival of the cuckoo: "When cuckoo calls on the bare thorn, Sell your cow and buy your corn"⁴⁷.

The farmer who does his work on time rejoices when flocks of cranes appear in due season, but the backward tiller of the soil is pleased at their later arrival, since crops planted late have time to mature (Ar. 1075-1081). The departure of cranes for Libya is a warning that it is time to do fall plowing (Hesiod 448)⁴⁸. After the stork leaves, it is not advisable to sow rape (Pl. 18.314).

When, as summer comes, a farmer on the mainland sees large numbers of birds from the islands alight on ploughed fields, it is not a cause for rejoicing, for he fears that the ears of grain will fail to fill out because of impending drought. The heart of the shepherd is glad when they come in moderate numbers, as he is hopeful of good pasturage and a milk-producing year (Ar. 1094-1100). It is explained in a scholium to Aratus (1094) that islands become parched more quickly than the mainland. When birds fly to the mainland in large numbers, farmers conclude that it will soon be as parched as the islands; if only a few come, the islands are still productive and crops on the mainland are not yet in danger.

'When the house-carrier < the snail > climbs up the plants from the earth to escape the Pleiades, then it is no longer the season for digging vineyards, but to whet your sickles and rouse up your slaves' (Hesiod 571-573). The advent of a lion into a crop-producing country means a dry spell (Ael. 7.8)⁴⁹. The appearance of many cicadas indicates that the year will be pestilential (Th. 54).

MISCELLANEOUS

There is a sign that points both to the ripening of the barley and the sowing of panic-grass and millet, the glow-worm shining in the fields at night (Pl. 18.250). Goats are plumpest and wine sweetest when the artichoke flowers, and the cicada sits in a tree and pours down his shrill song continually in the season of wearisome heat (Hesiod 582-585). There is a wild beast, named by the Egyptians *oryx*, which, when the dog-star rises, is said to stand opposite to it, to look steadfastly at it, and then to sneeze as if worshipping it (Ael. 7.8; Pl. 2.107). There is no doubt that during the whole of this period dogs are disposed to become rabid (Pl. 2.107)⁵⁰. When animals in Pontus

face northward as they graze, one may know that Arcturus is rising (Th. 41).

PROPHYLACTIC WEATHER LORE

As the ancients were interested in predicting changes in the weather, so they were concerned about finding means of averting the destructive elements. In the same way that vineyards were conspicuous in the lore of farming operations, so we shall find them engrossing much of the attention in prophylactic weather lore. Hail was a dreadful menace to vineyards in antiquity. There are more magical formulae for averting it than for affecting any other action of the elements⁵¹. One is tempted to conclude that hail-storms were more frequent in Italy in antiquity than is the case to-day. Two years in Italy have left upon me no impression that they are commoner than in the United States. According to Columella, 10.329-330, *Saepe ferus duros iaculatur Iuppiter imbres, grandine dilapidans hominumque boumque labores*.

Hail-storms could be averted by carrying around one's property the skin of a crocodile, hyena, or seal, and by hanging it at the entrance of the villa. Clouds menacing the welfare of vineyards would pass by if one suspended in his right hand a marsh turtle and carried it head downwards around a field, and then, after retracing his steps, buried it upside down so that it could not right itself (Palladius 1.35.14; Geopon. 1.14).

At the town of Cleonae there were hail-storm pickets maintained by the public to watch for hail-clouds. When the clouds were seen approaching, a signal was given and the farmers hastened to sacrifice lambs or fowls⁵². At times watchmen averted a hail-storm by making an offering of mole's blood (Plutarch, *Moralia* 700 F). Among other things useful for averting or restraining hail were the skin of a hippopotamus (Geopon. 1.14.12), a strip of seal-skin tied around a conspicuous vine (Geopon. 1.14.3)⁵³, owls with outstretched wings nailed to houses (Palladius 1.35.1), the right wing of an eagle buried in the middle of a field (Geopon. 1.14.2), and wooden statues of bulls set up in the home (Geopon. 1.14.7)⁵⁴.

Under certain conditions a woman can exert a magical influence upon hail-storms, whirlwinds, and lightnings, and succeed in averting them (Pl. 28.77)⁵⁵. If a bramble-frog is buried in the middle of a field of grain in a new earthen vessel, there will be no storms to cause damage (Pl. 18.294). At Methana in Troezen, according to Pausanias 2.34.2,

"When the vines are budding, and a south-wester sweeps down on them from the Saronic Gulf, it blights tender shoots. So, while the squall is still

⁴⁶Rogers's translation.

⁴⁷W. Henderson, *Folk-Lore of the Northern Counties*, 94.

⁴⁸Theognis 1197-1199.

⁴⁹"When the frogs spawn in the middle of the water, it is a sign of drought; and when at the side, it foretells a wet summer": Inwards, *Weather Lore*, 145.—"Should the cuckoo make its appearance before the leaves appear on the hawthorn bush, it is a sign of a dry barren year": E. Owen, *Welsh Folk-Lore*, 318.—"If this bird < the magpie > builds her nest at the top of a tree, the summer will be dry; if in the lower branches, the summer will be wet": Owen, 327.

⁵⁰Compare Pliny 8.152.

⁵¹When Constantine was trying to repress magic, he excepted those *remedia* which were intended to avert hail and storms. See Codex Theodosianus 9.16.3. <On hail-storms in Italy see some interesting remarks by Sir Archibald Geikie, *The Love of Nature Among the Romans*, 246-248. C. K.>

⁵²Seneca, *Quaestiones Naturales* 4.6.2; Clemens Alexandrinus, *Stromata* 6.31.1-3.

⁵³Compare Philostratus, *Heroica* 685.

⁵⁴In many parts of White Russia people eat a roast lamb or sucking-pig at Easter, and then throw the bones backwards upon the fields, to preserve the corn from hail": Frazer, *The Spirits of the Corn and of the Wild*, 1.300.

⁵⁵*Iam primum abigi grandines turbinesque contra fulgura ipsa mense nudato: sic averti violentiam caeli, in navigando quidem tempestates etiam sine menstruis.*

coming, two men take a cock, every feather of which must be white, rend it in two, and run around the vines in opposite directions, each carrying a half of the cock, and when they come back to the place from which they started, they hang the pieces there. This is their device for counteracting a southwester"⁵⁶⁻⁵⁷.

To ward off frost after pruning, the knives should be secretly smeared with bear's fat, or with goat's fat, or the blood of a frog (Geopon. 5.30).

Lightning, too, was always a cause of grave concern to both Greeks and Romans. In order to avoid being struck, the Emperor Augustus carried with him the skin of a seal (Suetonius, Augustus 90). Timid persons considered as safe tents made of seal-skin, since they believed the seal to be the only marine animal never struck by lightning (Pl. 2.146). The hyena's skin, as well as the seal's, was lightning-proof (Plutarch, Moralia 684 C).

So efficacious were the skins of seals and hyenas that they were affixed to the mast-heads of ships carrying royalty or dignitaries⁵⁸. The skin of a hippopotamus buried in the middle of a field was supposed to prevent thunderbolts from falling on it (Geopon. 1.16). In Irish-Canadian superstition swallows are better than lightning-rods. In E. T. Seton, Two Little Savages, 72, we find the following incident:

Lightning never strikes a barn where swallows nest. Paw never rested easy after the new barn was built till the swallows nested in it. He had it insured for a hundred dollars till the swallows got round to look after it⁵⁹.

A marvelous story is told about the *echeneis*, a mythical fish. Though very diminutive, it was supposed to have the power of counteracting the most violent waves, and of controlling the fury of wind and storm. It could bridle the impetuous rage of the deep. Simply by affixing itself to a ship, it could make it stand still at a time when cables and ponderous anchors were powerless (Pl. 32.2)⁶⁰. Pliny goes on to narrate some extraordinary feats of this fish in stopping war-ships.

Storms might be produced as well as averted. It was thought that, if the head and neck of a chameleon were burnt in a fire made with logs of oak, it would be productive of a storm with rain and thunder, a result equally well achieved by burning the liver under tiles (Pl. 28.113). Seton, Two Little Savages, 72, again provides a parallel from Irish-Canadian superstition:

⁵⁶Frazer's translation.

⁵⁷Frazer, Folk-Lore 1.163, cites an illuminating East Indian parallel: "When the sky is overcast, the skipper of a Malay prao takes the white or yellow feathers of a cock, fastens them to a leaf of a particular sort, and sets them in the fore-castle, with a prayer to the spirits that they will cause the black clouds to pass by. Then the cock is killed. The skipper whitens his dusky hand with chalk, points thrice with his whitened finger to the black clouds, and throws the bird into the sea. Clearly the idea of the Greek husbandman and the Malay skipper is that the white-winged bird will flutter against and beat away the black-winged spirit of the storm". In The Magic Art, 1.295-296, Frazer records instances of rabbits and serpents used to stop rain.

⁵⁸Plutarch, Moralia 664 C; Nonnus, De Morborum Curatione, Chapter 260; Lydus, De Ostentis 45 C.

⁵⁹"It <the swallow> preserves the house on which it builds from fire and storms, and protects it from evil": W. Henderson, Folk-Lore of the Northern Counties, 122.—The Germans have the same belief, according to Dyer, English Folk-Lore² (1880), 69.

⁶⁰See also Pl. 9.79; Ael. 2.17; Plutarch, Moralia 641 B.

Kill a spider an' it will rain tomorrow. Now that's worth knowin'. I mind one year when the Orange-men's picnic was comin', 12th of July. Maw made us catch twenty spiders and we killed them all the day before, and law, how it did rain on the picnic! Mebbe we didn't laugh. Most of them had to go home in boats, that's what our paper said! But next year they done the same thing on us for St. Patrick's day, but spiders is scarce on the 16th of March, an' it didn't rain so much as snow, so it was a stand-off.

It is a popular belief of Canada and the United States that, if you kill a snake and hang it on a tree or fence, it will cause rain. In The Magic Art, 1.287-295, Frazer gives instance after instance of animals used to cause rain. In many of these illustrations dark-colored animals bring the black rain-clouds.

MIGRATIONS AND THE SEASONS

The connection of the birds with the weather is not difficult to understand. Where calendars are not invented, the seasons are marked by the recurrence of natural phenomena, particularly by the advent of migratory birds. The swallow arrives at the beginning of spring; unsophisticated man believes that it brings the spring.

So writes Halliday, Greek Divination, 258. The same writer says farther on (261) that birds play a part in the magical recall of spring and summer. The Rhodian swallow-song does speak of the swallow as bringing the spring⁶¹, and a passage from the Latin Anthology, quoted above, does invoke the cuckoo to dispel the cold. That these illustrations may be taken literally is shown by a Russian parallel: "On the 25th of < March > the swallow comes flying from Paradise, and brings with it warmth to the earth"⁶².

It would probably be quite wrong, however, for one to infer from this that the origin of seasonal weather lore of birds is due to any belief in their magical ability to cause or to import the seasons. Unsophisticated man could hardly have understood that the reappearance of the swallow, for instance, was an arrival from another clime.

It is reasonable to suppose that when Aristotle, Historia Animalium 8.16, names some ten species of birds which he thought hibernated⁶³, he is defending a time-honored idea for the total rejection of which he believed there was not sufficient evidence. The tradition of hibernation persists in Latin literature and even in modern times⁶⁴. The appearance and the disappearance of birds would early be associated with the seasons, but responsibility for bringing them would hardly be thrust upon the birds as long as belief in hibernation was prevalent. Plants and flowers, which are dormant in winter, are likewise harbingers of seasons, but nowhere, so far as I know, are they endowed with power to bring them. It would seem, then, that the idea of the sponsorship of the birds for the seasons, if it ever attained much credence, is later than their reputation as *nomenclatores* of seasons.

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⁶¹Cowley, The Swallow, quotes mankind in general as saying of the swallow, 'Thou bring'st the spring'.

⁶²W. R. S. Ralston, The Songs of the Russian People, 213.

⁶³Compare also Aristotle, De Mirabilibus Auscultationibus 63.

⁶⁴Martin, The Birds of the Latin Poets, 232-233; Halliday, Greek Divination, 260-261.